

## CLAIMS

1. Method of determining the susceptibility to gastrointestinal diseases in an individual, which method comprises typing the 5-HTT gene region or 5-HTT protein of the individual and determining thereby whether the individual is susceptible to gastrointestinal diseases.

5 2. A method according to claim 1 wherein the typing comprises identifying whether the individual has a gastrointestinal disease susceptibility polymorphism, or a 10 polymorphism which is a linkage disequilibrium with such a polymorphism, in (i) the 5-HTT gene region or (ii) the 5-HTT protein.

15 3. A method according to claim 2 wherein the said polymorphism is selected from or is in linkage disequilibrium therewith.

4. A method according to any one of the preceding claims which comprises contacting a polynucleotide or protein of the individual with a specific binding agent for a said polymorphism and determining whether the agent binds to a said polymorphism in the polynucleotide or protein, the binding of the agent to the polymorphism indicating 20 that the individual is susceptible to gastrointestinal disease.

5. A method according to claim 4 wherein the agent is a polynucleotide which is able to bind a polynucleotide containing the said polymorphism but which does not bind a polynucleotide with the corresponding wild-type sequence.

25 6. A method according to any one of the claims 2 to 3 wherein the polymorphism is detected by measuring the change caused by the polymorphism in the mobility of a polynucleotide or protein of the individual or protein during gel electrophoresis.

30 7. A method according to any one of the preceding claims wherein the typing is performed on a sample from the individual.

8. A method according to any one of the preceding claims wherein the gastrointestinal disease is IBS.

35 9. Method for treating a patient who has been diagnosed as being susceptible to gastrointestinal disease by a method as defined in any one of the preceding claims,

comprising administering a therapeutically effective amount of a 5HT ligand to the patient.

10. Use of a 5HT ligand in the manufacture of a medicament for use in treating a patient who has been diagnosed as being susceptible to gastrointestinal disease by a method as defined in any one of claims 1 to 8.

5 11. Use according to claim 10 or a method according to claim 9 wherein the 5HT ligand is selected from 5HT3 antagonists, 5HT4 antagonists and 5HT4 agonists.

10 12. Use or a method according to claim 11 wherein the 5HT receptor ligand is selected from alosetron, ondansetron and granisetron.

15 13. A probe, primer or antibody which is capable of detecting a polymorphism as defined in any one of claims 2 to 3.

14. A kit for diagnosing susceptibility to gastrointestinal disease, comprising an agent, probe, primer or antibody as defined in claim 11.

20 15. An isolated polynucleotide or protein that comprises (i) a polymorphism that causes susceptibility to gastrointestinal disease or (ii) a naturally occurring polymorphism that is in linkage disequilibrium with (i).

16. A vector incorporating a polynucleotide as defined in claim 15.

25 17. A process for the preparation of a protein as defined in claim 15, which process comprises:

(i) culturing a host cell transformed or transfected with a vector according to claim 14 under conditions to provide for expression of the protein, and optionally

30 (ii) recovering the expressed protein.

18. A method of identifying a polymorphism which can be typed to determine susceptibility to gastrointestinal disease, comprising determining whether a candidate polymorphism in the 5-HTT gene region or 5-HTT protein is (i) associated with 35 gastrointestinal disease or (ii) is in linkage disequilibrium with a polymorphism which is associated with gastrointestinal disease, and thereby determining whether the polymorphism can be typed to determine susceptibility to gastrointestinal disease.